UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/176,580	10/21/1998	RAMESH SUNDARAM	S01.12-0460	2038

7590 02/12/2004

PETER S DARDI
WESTMAN CHAMPLIN & KELLY
SUITE 1600 INTERNATIONAL CENTRE
900 SECOND AVENUE SOUTH
MINNEAPOLIS, MN 554023319

EXAMINER	
VERBITSKY, GAIL KAPLAN	
ART UNIT	**PAPER NUMBER**
2859	

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/176,580	SUNDARAM ET AL.	
	Examiner	Art Unit	
	Gail Verbitsky	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,4-7,9-14,16,18,20,21 and 23-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,4-7,9-14,16,18,20,21 and 23-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. In light of arguments presented by applicant in paper # 01/ 05/2003, the finality of the Office action (paper # 33) is hereby withdrawn, and prosecution of the instant application is reopened.

Specification

2. Specification is objected because; it is not clear from the specification if the method steps claimed in claims 18, 21 and 26 refer to conventional (previous) practices or to the preferred embodiment. Appropriate correction/ clarification is required. No new matter should be entered.

3. It appears that the newly added limitations including "contoured disc facing surface" and the "thickness portion forming a contour profile of the contoured disc facing surface" of the glide body have not been described in the specification.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 2, 16, 18, 21, 26, 28 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In this case, it is not clear whether the method steps (depositing

the transducers on the glide bodies already sliced from the wafer), as stated in claims 18, 21, and (depositing the transducers prior to slicing), as stated in claim 26, described in the specification refer to conventional (previous) practices or to the preferred embodiment. It appears, that the specification in page 6, lines 18-27, refers *to placing transducers on the wafer prior to cutting the wafer* (claim 26), as a conventional method ("under previous practices"). However, in page 14, lines 17-28, Applicant refers to *placing transducers prior to slicing wafer*, as a preferred approach/ method. Therefore, it is not clear from the specification whether the method of *placing the transducers onto the wafer prior to slicing* is a conventional or preferred method. Thus, it is not clear whether the method of *slicing the wafer prior to placing the transducers*, as claimed in claim 18, is a conventional or preferred method.

Claims 4-7, 9-14, 20-21, 23-24, 29 are rejected by virtue of their dependency on claims 2, 16, 18, 28.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 2, 16, 18, 20, 26, 28 and 4-7, 9-14, 20-21, 23-24, 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In this case, the claim language is confusing due to the reasons stated above in paragraph 5.

Claims 4-7, 9-14, 20-21, 23-24, 29 are rejected by virtue of their dependency on claims 2, 16, 18, 28.

Claim Objections

8. Claims 2, 4-5, 28 are objected to because of the following informalities:

Claims 2, 4-5: the preamble of the claims dependent on claim 2 should be replaced with --"The glide test system-- .

Claim 2: Perhaps Applicant should insert --wherein-- before "the thickness" in line 13 in order to clearly describe the invention.

Claims 2, 28: it is not clear from the claim language if the contoured disc facing surface is in fact an ABS.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section

122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

10. Claims 2, 4-6, 10-11, 14, 16, 20, 23, 25-26, 28-29 (as best understood by the Examiner) are rejected under 35 U.S.C. 102(e) as being anticipated by Boutaghou et al. (U.S. 5808184) [hereinafter Boutaghou].

Boutaghou discloses in Figs. 1-4 and 13 a device/ glide test system having a thermal asperity sensor comprising a slider body 12 having a leading edge A, a trailing edge, a contoured (having rails) relative to a recess surface, a disc facing surface C. The surface C has a raised bearing surface D (26) elevated from a recessed bearing surface E. The device also has transducers (plurality of magnetoresistive sensors/ MR) 18 spaced apart along the length of rails (elevated/ raised bearing surface) 26 of an air-bearing surface 14 ABS (col. 6, lines 6-7, entire col. 3 and Fig. 1). Each transducer has at least three layers, thus, constituting a thin (having thickness/ height/ profile) and flat (col. 7, line 20) asperity-contacting surface (length) oriented along the ABS. As shown in Fig. 1, the transducers are oriented along (portion extending) the ABS. Inherently, the thickness of the transducer is forming a contour profile of the contoured disc facing surface and is intersecting (contacting) with its portion extending along the ABS.
For claim 10: the transducers extend substantially from the leading edge to the trailing edge, as shown in Fig. 4.
For claim 14: Boutaghou states that the transducer can be a PZT (col. 2, line 14),
For claim 24: Boutaghou teaches that the transducers have at least three thin layers/ films. This would imply that the most outer layer serves as a protective layer.

For claim 26: Boutaghou states that the transducers are fabricated at the wafer level (col. 3, line 22), i.e., prior to slicing.

For claim 25: the thermal asperity detection means (thermal transducers (located on the ABS of the glide body detect asperity on a disc surface/ surface of interest.

For claim 29: It is inherent that the ABS must be fabricated prior to depositing the thermal transducers onto it and thus, onto the raised bearing surface of the ABS. (The numerals A- F have been added by the Examiner, see **attachment to the Office Action).** The method steps will be met during the normal manufacturing process of the device stated above.

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claim 27 is rejected under 35 U.S.C. 102(e) as being anticipated by Franco et al. (U.S. 6262572) [hereinafter Franco]

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Franco discloses in Figs. 6-7 a device in the field of applicant's endeavor comprising a body portion (slider) including a leading edge, a trailing edge, a raised air bearing surface including a rail 98, at least one thermal asperity transducer 96 deposited onto a trailing edge of the rail 98 of the ABS of the slider (col. 12, lines 45-67 and entire cols. 13-14), the transducers have terminations (pads) connected to wires (conductive strips) 97 positioned on the trailing edge of the rail (raised surface) of the ABS, as shown in Figs. 6-7, the strips are connecting the at least one thermal transducer to an electronic circuitry.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Response to Arguments

14. Applicant's arguments filed on January 05, 2004 have been fully considered but they are not persuasive.

Applicant states that the preferred fabrication process is when the transducers are placed onto the glides sliced from the wafer and refers to the specification, page 14, lines 4-16. However, it appears that this paragraph is a continuation of the previous paragraph (page 13, line 29-34 and page 14, lines 1-3) which describes a conventional method, while the paragraph in page 14, lines 17-28 describes the method of placing of transducers onto the wafer prior to slicing as a preferred approach.

With respect to claim 29: Applicant states that as described in page 6 of the instant specification, the thermal transducers is deposited at the wafer level prior to slicing, and the ABS is formed on a cur surface after slicing, and that it is not inherent that the ABS must be fabricated prior to depositing of the thermal transducer. This argument is not persuasive because: A) Boutaghou teaches to deposit the thermal transducers onto the contoured surface (rails) which is part of the ABS, and thus, inherently the thermal transducers are deposited on the ABS, B) see paragraph 9 of the Office action.

With respect to claim 25: Applicant's arguments with respect to claim 25 have been considered but are moot in view of the new ground(s) of rejection (see paragraph 10 of the Office action).

With respect to claim 27: Applicant's arguments with respect to claim 27 have been considered but are moot in view of the new ground(s) of rejection (see paragraph 12 of the Office action).

Allowable Subject Matter

15. Claims 18, 21 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112.

Claims 7, 9, 12-13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

16. Any inquiry concerning this communication should be directed to the examiner Verbitsky whose telephone number is (703) 306-5473.

Any inquiry related to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.

GKV

02 February 2004

Gail Verbitsky

Primary Patent Examiner, TC 2800